

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings include changes to Figures 2, 3, 4, 5, 7, and 10. These sheets, which include Figures 2, 3, 4, 5, 7, and 10, replace the original sheets including Figures 2, 3, 4, 5, 7, and 10.

Attachment: Replacement Sheets

REMARKS

In the Office Action mailed March 5, 2009 the Office noted that claims 1-22 were pending and rejected claims 1-22. Claims 1-22 have been amended, no claims have been canceled, claims 23-28 are new, and, thus, in view of the foregoing claims 1-28 remain pending for reconsideration which is requested. No new matter has been added. The Office's rejections and objections are traversed below.

OBJECTION TO THE DRAWINGS

The drawings stand objected to. In particular the Office asserts that drawings do not label the blocks of the Figures. The Applicants have replaced Figures 2, 3, 4, 5, 7, and 10. The replacement Figures may be found, in papers following the Appendix of this document. The Applicants submit that no new matter is believed to have been added by the amendment of the drawings.

DOUBLE PATENTING

Claims 1-22 are provisionally rejected on grounds of nonstatutory obviousness-type double patenting as being unpatentable over U.S. Patent 7,394,904.

The Applicants have amended independent claims 1 and 15 and thus believe that the claims are patentably distinct from claims 1-35 of U.S. Patent 7,394,904.

Withdrawal of the provisional rejection is respectfully requested.

REJECTIONS under 35 U.S.C. § 101

Claims 1-13 stands rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In particular, the Office asserts that the claims fail to meet the machine or transformation test as set forth in *In re Bilski*.

The Applicant has amended the claims to tie the claim to another statutory category and therefore, submits that the claim as now written is statutory. Support for the amendment may be found, for example, in ¶¶ 0033 and 0091 of the printed publication version of the Specification.

Withdrawal of the rejections is respectfully requested.

REJECTIONS under 35 U.S.C. § 102

Claims 1-12 and 15-22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ise, JP 11-168792. The Applicants respectfully disagree and traverse the rejection with an argument and amendment.

Ise Fig. 5 discusses an input signal $u(n)$ is received, where the input signal $u(n)$ is a mono-channel signal, not associated with any particular reproduction direction.

The input signal is feed between loudspeakers 104 by a convolution filter 102, so that each loudspeaker receives a

convolution (in time) of the input signal $u(n)$ (See ¶¶ 0040-0042).

The loudspeakers 104 emit sounds in a room C (See ¶ 0044: "acoustical system C"). The sounds are received by the microphones 106 and mode-decomposed by a mode dividing filter 108 (See ¶ 0039).

In parallel, the input signal is process by the bloc 116 and then decomposed by a mode dividing filter 118, so as to form a "modal reference". (See ¶ 0091) The outputs of the dividing filter 108 are compared to the modal reference and then recomposed by a field conversion filter 114. The field conversion filter 114 outputs error signals which are used to update the convolution filter.

As described above, the system of Ise tries to reproduce, at the location of each microphone, the target response H defined by the bloc 116, by comparing the modal signals.

It should be noted that the present claims aim, in contrast, at compensating for the use of reproduction elements which are not in the directions associated with the multi-channel audio signal. Also, the invention reproduces the sound field in a region of space, while Ise reproduces the sound at the locations of the microphones only.

Thus, the Applicant has amended claim 1 to emphasize this distinction. Claim 1 recites "[a] method for controlling **an**

acoustic field reproduction unit comprising a plurality of reproduction, comprising: - *determining via a computer parameters describing the reproduction direction of each channel of a multi-channel audio signal*, determining via a computer at least spatial characteristics of the reproduction unit, *the spatial characteristics comprising at least the direction of each reproduction element* in the three spatial dimensions relative to the given point, *wherein the determined directions of the reproduction elements are different from the reproduction directions of the multi-channel audio signal*, determining via a computer a spatial adaptation matrix using the determined directions of the reproduction elements and the parameters describing the reproduction directions, wherein the spatial adaptation matrix is determined such that controlling the reproduction elements with the controlling signals reproduces, in a region comprising the given point, the acoustic field that would have been obtained by controlling, with the multi-channel audio signal, ideal reproduction elements which would exactly comply with the reproduction directions of the multi-channel audio signal." (Emphasis added) Support for the amendment may be found, for example, in ¶¶ 0002, 0003, 0078, 0079, 0129, 0132, 0139, 0151, 0152, 0162, 0163, 0180 and 0200 of the printed publication version of the Specification. The Applicants submit that no new matter is believed to have been added by the amendment of the claims.

Ise fails to disclose the features of the amended claims.

Claim 15 recites similar features as claim 1. Therefore, for at least the reasons discussed above claims 1 and 15 and the claims dependent therefrom are not anticipated by Ise.

Withdrawal of the rejection is respectfully requested.

REJECTIONS under 35 U.S.C. § 103

Claims 13 and 14 stand rejected under 35 U.S.C. § 103(a) as being obvious over Ise in view of Lavoie, U.S. Patent No. 7,158,643. The Applicants respectfully disagree and traverse the rejection with an argument.

Lavoie adds nothing to the deficiencies of Ise as applied against claim 1. Therefore, for at least the reasons discussed above, Ise and Lavoie, taken separately or in combination, fail to render obvious the features of claim 1.

Withdrawal of the rejections is respectfully requested.

NEW CLAIMS

Claims 23-28 are new. Support for the claims may be found, for example, in ¶¶ 0116, 0161 and 0162 among others. The Applicants submit that no new matter is believed to have been added by the amendment of claim 1. The prior art of record fails to disclose the spatial characteristics of the reproduction unit are determined without using the multi-channel audio signal; the spatial adaptation matrix is determined without using the multi-channel audio signal; and when being applied, the spatial adaptation matrix remains as it has been determined.

SUMMARY

It is submitted that the claims satisfy the requirements of 35 U.S.C. §§ 101, 102 and 103. It is also submitted that claims 1-28 continue to be allowable. It is further submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

Charge the fee of \$156 for the six claims of any type added herewith, to our credit card.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

/James J. Livingston, Jr./
James J. Livingston, Jr.
Reg.No. 55,394
209 Madison St, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

JJL/fb

APPENDIX:

The Appendix includes the following item(s):

- ☐ - a new or amended Abstract of the Disclosure
- ☒ - Replacement Sheets for Figures 2, 3, 4, 5, 7, and 10
of the drawings
- ☐ - a Substitute Specification and a marked-up copy of the
originally-filed specification
- ☐ - a terminal disclaimer
- ☐ - a 37 CFR 1.132 Declaration
- ☐ - a verified English translation of foreign priority
document